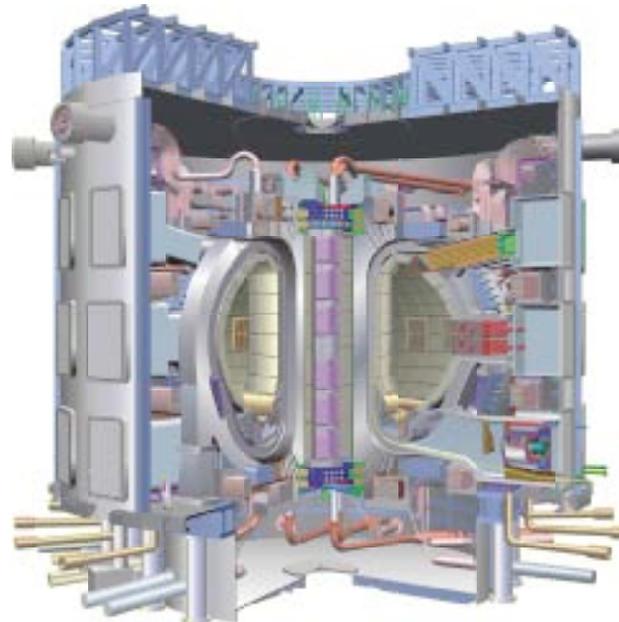
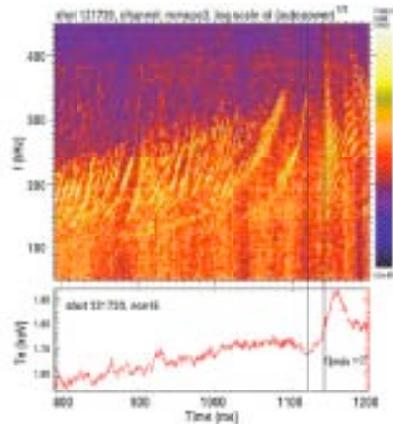
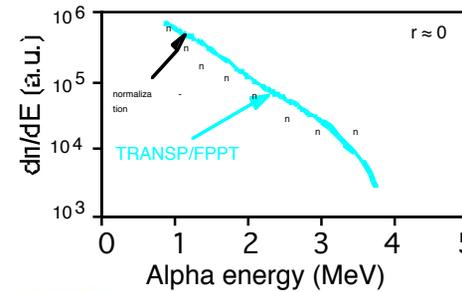
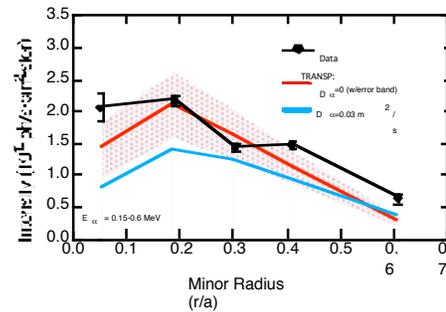




Update on US Burning Plasma Organization Activities...

U.S. BURNING PLASMA ORGANIZATION

Science & Technology Development today...



R. J. Fonck

presented to

Budget Planning Meeting

Gaithersburg, MD

Mar. 15, 2006

... for Burning Plasmas to come...



USBPO Development Continuing

U.S. BURNING PLASMA ORGANIZATION

- Sponsored Burning Plasma Workshop
 - Dec. 7-9, 2005 at ORNL
- Building initial structure...
 - Directorate
 - Council
 - Topical Groups
- Helping develop a BP Research Plan
 - EPAAct panel formed



Near-Term Activities

U.S. BURNING PLASMA ORGANIZATION

- Increase attention on coordination of BP activities
 - What and how - interface with existing activities?
- Establish critical elements
- Expand on workshop activity
 - Define Topical groups and solicit participation
 - Identify Issues and Tasks from Workshop
 - Continue some Group Discussions
- Help with BP Planning activity as requested



Organizational Activities Starting

U.S. BURNING PLASMA ORGANIZATION

- **Directorate:**
 - Director = Ray Fonck (UW)
 - Deputy Director = Tony Taylor (GA)
 - Admin = Joan Welc-Lepain (UW)
 - Communications = James Dekock (UW)

- **Council:**
 - Near-term Tasks: Charter development; Procedures; BP Plan review
 - Tenure and selection of Council members and group leaders to be defined
 - Whole Council meeting once established - maybe video
 - Chair and Vice-Chair meet weekly with Directorate



First Council Formed

U.S. BURNING PLASMA ORGANIZATION

- **Council:** Chair = James VanDam (U. Texas)
 Vice-Chair = Amanda Hubbard (MIT)

Steven Cowley (UCLA)

Richard Hawryluk (PPPL)

Gerald Navratil (Col. U.)

Craig Petty (GA)

Thomas Rognlien (LLNL)

George Tynan (UCSD)

Steven Allen (LLNL)

Earl Marmor (MIT)

Martin Peng (ORNL)

David Petti (INEEL)

John Sarff (U. Wisc.)

Michael Zarnstorff (PPPL)

ex-officio: Stanley Milora (IPO Chief Technologist, ORNL)

Raymond Fonck (USBPO Dir.; IPO Chief Scientist)

OFES Program Managers: Erol Oktay (Science)

Gene Nardella (Technology)



Increasing Activities Planned

U.S. BURNING PLASMA ORGANIZATION

- **Working Groups**
 - Topical Group Signup at <http://www.burningplasma.org>
 - 10 Groups suggested by Workshop; >70 people registered to date
 - Identifies pool of interested parties to help with Tasks
 - Use as nucleus for activating groups over March-April period
 - Some groups starting discussions for Tasks: Diagnostics; Boundary, Control (CODAC)
- **Communications tools deployed**
 - Supporting: teleconferencing, file sharing, bulletin boards, e-mail lists
 - Video-conference and white-board standards in evaluation by Task Group
 - e-mail and web Newsletters to interested parties started



Topical Group Formation Starting

U.S. BURNING PLASMA ORGANIZATION

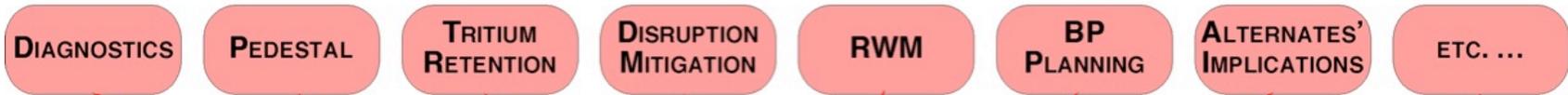
- General features
 - 10 Groups identified at Workshop
 - Integrate with existing structures as much as possible
 - Avoid extra meetings (satellite: PFC, TTF, etc.)
 - Activate majority of Topical Groups in next month or so
- Process for initiating defined
 - **Soliciting nominations and expressions of interest for coordinators - NOW....**
 - Appoint coordinator + 2 co-coordinators to start formation
 - Directorate submits slate of candidates to Council
 - Council reviews
 - Final choice by Directorate and OFES



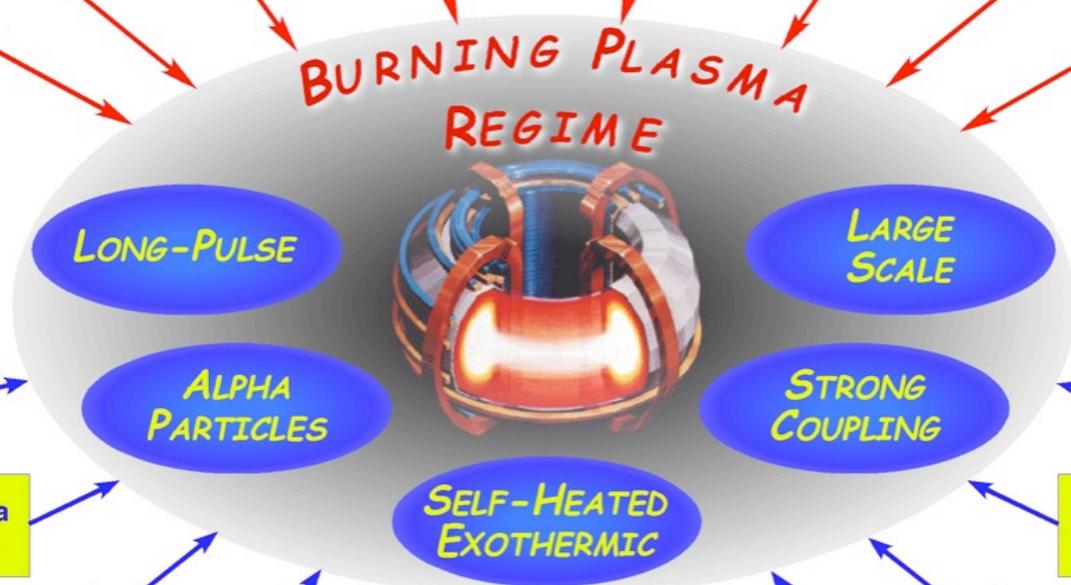
USBPO: Help Apply Community Activities & Expertise to BP-Relevant Issues

U.S. BURNING PLASMA ORGANIZATION

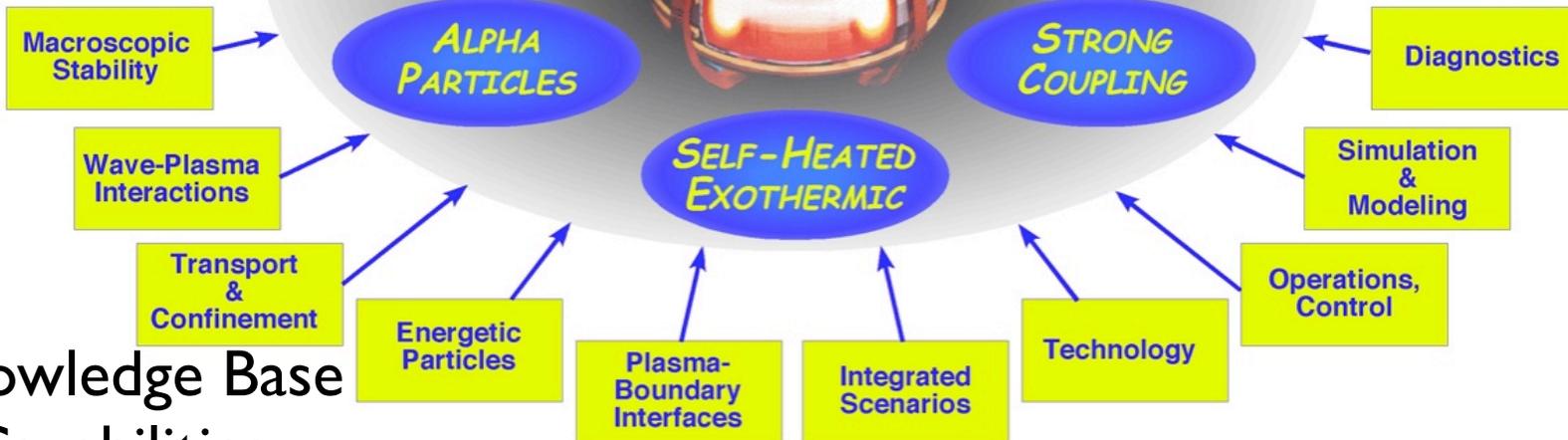
USBPO CAMPAIGNS, TASKS (E.G.)



Problems to Address...



Knowledge Base & Capabilities...



PLASMA AND ENGINEERING SCIENCE TOPICAL AREAS



Task Request: Help Address BP Research Plan

U.S. BURNING PLASMA ORGANIZATION

- Energy Policy Act of July, 2005 calls for a Plan for US Participation in ITER
- DoE/OFES has asked USBPO to help develop this Plan
 - Request for Study to develop a Plan received Feb. 16
- Approach to addressing this developed
- Consultation with and feedback from FESAC integral to this effort



Charge Letter from A. Davies, AD, OFES

U.S. BURNING PLASMA ORGANIZATION

...The EPAct requires the Secretary of Energy to develop a Plan, in consultation with the Fusion Energy Sciences Advisory Committee (FESAC), for the participation of United States scientists in ITER that include:

- (i) The U.S. research agenda for ITER;
- (ii) Methods to evaluate whether ITER is promoting progress toward making fusion a reliable and affordable source of power; and
- (iii) Description of how work at ITER will relate to other elements of US fusion program.

The EPA also requires that the Secretary shall request a review of the plan by the National Academy of Sciences.

I would like the U.S. Burning Plasma Organization (USBPO) to develop this Plan in close cooperation with the U.S. fusion community. ...

...The Plan, including consultation with FESAC ... must be completed by June 30, 2006. ...

...Your status report on BPO to FESAC on March 1 should include your approach to prepare this Plan. ...

Please let me know any obstacles you see in completing this task by June 2006.



Approach to Addressing Charge

U.S. BURNING PLASMA ORGANIZATION

- Use, and be consistent as much as possible with, wealth of relevant community studies
 - DO NOT reinvent the wheel!
 - BP workshop, Facilities Report, Priorities Report, Snowmass, ITPA, BPAC, FESAC BP, PAC reports, etc.
- Form Task Group to develop report for OFES
 - Chaired by R. Fonck
 - Consisting of community stakeholders
 - Chosen by Directorate, Council Chair & Vice-Chair, and OFES with solicited input



Process for addressing charges

U.S. BURNING PLASMA ORGANIZATION

- **Similar to other study committees**
 - Task group of 15 people
 - Three 3-6-member Working Groups, each to address an individual charge
 - Interact with community for input (e.g., BP Workshop output, prior reports, solicitation, etc.)
 - Executive Committee to bring chapters and story together
 - Whole Task Group to vet total document

- **Consultation and Reviews**
 - Tight coordination with USIPO and ITER program
 - FESAC to comment on Draft Report in early June
 - Final, with responses to FESAC, reviewed by USBPO Council



Customers and Scope

U.S. BURNING PLASMA ORGANIZATION

- Customers = Congress and staff
 - NOT for the community: avoid detail of past community reports
 - Clear language and modest length
- Relate to & use past reports (e.g., Priorities Report)
 - Explain how we plan to use ITER to answer parts of our 6 big questions
 - Tie other program elements into discussion by showing how the elements not covered by ITER are addressed
- Avoid flat shopping list of issues
 - e.g., M. Holland, House Science Committee Staff:
“Give a rule book for how to address the program so that outsiders use our own rules to evaluate our shopping list...”
- Feed into new FESAC panel deliberations...



General Report Structure

U.S. BURNING PLASMA ORGANIZATION

Theme: *Ensure success and gain greatest benefit from participation in ITER*

- Executive Summary
- Chap I: Overview and timing and scope of issues
 - Plain-English presentation of plan with issues and timeline
- Chap II: The U.S. research agenda for ITER
- Chap III: Metrics for evaluating whether ITER is promoting progress towards fusion energy
- Chap IV: Relation to other elements of the U.S. Program



EPAct Task Group Formed

U.S. BURNING PLASMA ORGANIZATION

Chair = R. Fonck (UW; USBPO)

vice-Chair = E. Synakowski (LLNL)

Topic 1 - US Research Agenda for ITER

R. Stambaugh (GA)*

R. Parker (MIT)

R. Hawryluk (PPPL)

W. Nevins (LLNL)

C. Baker (SNL/UCSD)

H. Berk (UT)

Topic 2 - Methods to evaluate whether ITER is promoting progress towards making fusion a reliable and affordable source of power

D. Meade (PPPL)*

F. Najmabadi (UCSD)

M. Greenwald (MIT)

C. Baker (SNL/UCSD)

Topic 3 - Description of how work at ITER will relate to other elements of the US fusion program

G. H. Neilson (PPPL)*

M. Mauel (Columbia)

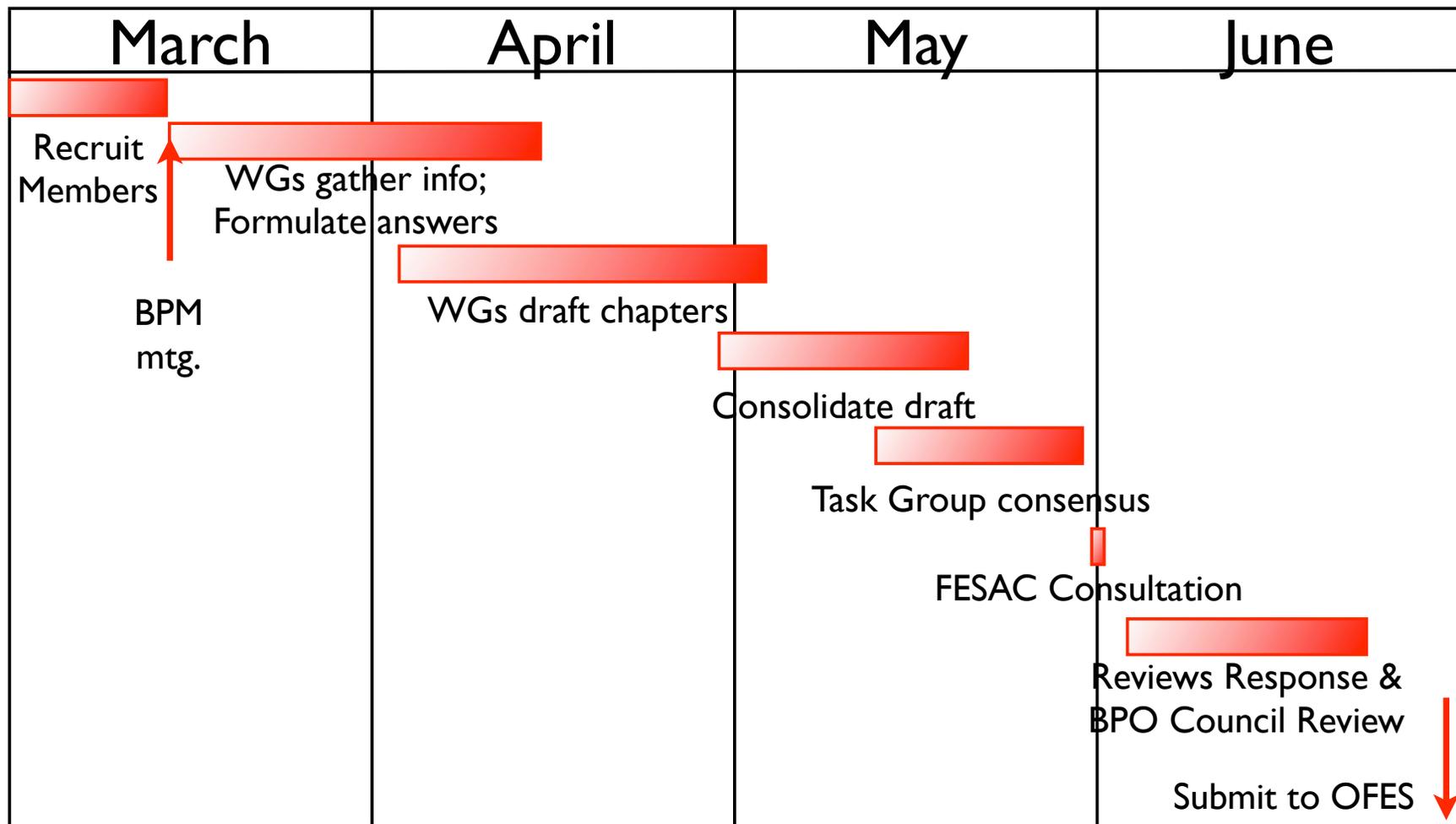
T. Strait (GA)

D. Batchelor (ORNL)



Schedule for EPO Act Report

U.S. BURNING PLASMA ORGANIZATION





Summary

U.S. BURNING PLASMA ORGANIZATION

- USBPO Development is proceeding
- Successful BP Workshop held @ ORNL
- Elements of BPO developing
 - Directorate & Council
 - Working groups to be formed next
 - To contribute to ITER/BP tasks, FESAC study, etc.
- EAct study Task Group formed